DOCUMENT RESUME

ED 385 382 PS 023 502

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TITLE A Longitudinal Study of Patterns of Parent Involvement in School across the Elementary Years: Teacher and Parent Reports.
SPONS AGENCY National Inst. of Child Health and Human Development (NIH), Bethesda, Md.
PUB DATE Apr 95
CONTRACT 2-R01-HD17553-01; 2-R01-HD17553-06
NOTE 76p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, CA, April 18-22, 1995).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Communication Problems; Educational Attitudes; Elementary Education; *Elementary School Teachers; Feedback; Longitudinal Studies; *Mothers; Parent Attitudes; *Parent Participation; Parents as Teachers; *Parent Teacher Cooperation; Teacher Attitudes

ABSTRACT

Using three waves of a cross-sequential, longitudinal study of elementary school students, their families, and their teachers, this study documented patterns of use of parent involvement strategies across grades 1 through 6 using teacher and parent reports. The results indicated that, in general, teachers reported infrequent use of parent involvement strategies, with the exceptions of providing parents with basic information on classroom procedures, and providing feedback for negative student behaviors. In general, mothers corroborated these reports, indicating infrequent solicitations of direct involvement, but also reporting that they received fewer basic communications than teachers reported. Despite the lack of school-initiated efforts to involve parents, mothers reported quite frequent engagement with their children in reading activities in the early grades, and in other academic activities and educationally relevant discussions across the elementary years. Correlations between teacher and parent reports showed few significant relationships, suggesting either a communication gap between home and school, or a lack of parental acknowledgement of these practices due to their infrequency. An appendix contains teacher scales intended to measure parents' educational involvement. (Contains 21 references, 9 tables, and 4 figures.) (MDM)

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A Longitudinal Study of Patterns of Parent Involvement in School Across the Elementary Years: Teacher and Parent Reports.

ED 385 382

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This paper was presented at the annual meeting of the American Educational Research Association, San Francisco, California, April, 1995 in session 43.48 - "Family influences on school adjustment: Part one." This research was made possible through grants from the National Institute for Child Health and Human Development: #2 R01 HD17553-01 to Jacquelynne S. Eccles, Allan Wigfield, and Phyllis C. Blumenfeld, and #2 R01 HD17553-06 to Jacquelynne S. Eccles, Phyllis C. Blumenfeld, Rena D. Harold, and Allan L. Wigfield. The authors gratefully acknowledge Amy Arbreton, Carol Freedman-Doan, Kathy Houser, Janis Jacobs, and Cle Mollasis for their assistance with these projects over the years, as well as the participating schools, parents, and children. Address all correspondence to the first author at 5201 Institute for Social Research, Ann Arbor, Michigan, 48106-1248.

PS 023502

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Abstract

Using three waves of a cross-sequential, longitudinal study of elementary children, their families, and their teachers, we document patterns of use, as well as the frequency of use of parent involvement across grades 1 to 6 using teacher and parent reports. In general, teachers reported infrequent use of parent involvement strategies, with the exceptions of providing parents with basic information on classroom procedures, and providing feedback for negative student behaviors (poor achievement, conduct, etc.). Teachers' requests for direct at-home involvement of parents in educational activities occurred less than once a month. In general, mothers corroborated these reports; they reported infrequent solicitations of direct involvement, but also reported that they received fewer basic communications than teachers reported. Despite the lack of school-initiated efforts to involve parents, mothers reported quite frequent engagement with their child in reading activities in the early grades, and in other academic activities and educationally relevant discussions all across the elementary years. Correlations between teacher and parent reports showed few significant relationships, suggesting either a communication gap between the home and school, or a lack of parental acknowledgment of these practices due to their infrequency. Results are discussed in terms of how teachers may make more effective efforts to capitalize on the apparent on-going educational activities that parents are doing with their children, despite the lack of encouragement for these activities on the part of schools.

Introduction

Parental involvement in a child's education is an important factor contributing to a child's school adjustment and success. Greater parent involvement has been linked to increased academic motivation, achievement, and other positive school-related behaviors (attendance, decreased drop-out) (see Bronfenbrenner, 1979; Dwyer & Hecht, 1992; Eccles & Harold, 1993; Epstein, 1994). Currently, widespread consensus about the educational advantages of having parents involved in their child's schooling seems to exist not only among researchers, educators and policy-makers, but also among parents and children themselves (Epstein, 1994). Unfortunately, there seems to exist a substantial gap between these consensual beliefs concerning parental involvement in schooling, and what actually occurs during the elementary and secondary school years. Several reports have highlighted the infrequent nature of home-school connections in the elementary years, and the virtual absence of these connections with the advancement of youth into middle and high school environments (e.g., Carnegie, 1989; Eccles & Harold, 1994; Epstein, 1994; Stevenson & Stigler, 1992).

Given that both teachers and parents think that collaborative involvement between the home and school is important, and both parties report a desire for more collaboration, why is there not more frequent and effective communication between the school and the home? Some evidence points to the role of certain family characteristics (time, energy, economic resources, familiarity with the child's curriculum; feelings of efficacy concerning helping a child with schooling, etc.) in the determination of parents' decisions and ability to get involved with their child's schooling (e.g., Stevenson & Baker, 1987). Increasing evidence suggests, however, that some of the most important determinants of parent involvement in a child's schooling are related less to "social address" characteristics of families (e.g. race, family size, educational background, marital status, etc.), and more to school and teacher practices that aim to include parents in significant ways in their child's education (e.g., Dauber & Epstein, 1989; Epstein, 1986). Indeed,

what schools ask parents to do seems to be a primary, if not the primary influence on whether or not parents choose to get involved (Comer, 1980; Eccles & Harold, 1993; Epstein, 1986).

In an effort to understand both what schools ask of parents and what parents do to become involved in their child's education, we draw a portrait of parent involvement across the elementary school years, utilizing reports from both teachers and parents. To date, while important theoretical formulations of the different kinds of parent involvement (e.g., Epstein, 1987b), as well as theoretical models of the determinants of parent involvement have appeared in the literature (e.g., Eccles & Harold, 1993), few longitudinal investigations of home-school linkages have been undertaken. In this report, we use longitudinal data to both describe patterns of what schools ask of parents, what parents perceive concerning the schools efforts to keep them involved, and what parents actually do. We also examine the relationships among teacher and parent reports on these variables at several different time points.

Conceptualizing parent involvement

The work of Epstein and her colleagues (1987a) has been instrumental in the elucidation of the different strategies schools use in an effort to inform and involve parents. These authors have developed a typology comprised of six major ways that schools can contribute to the process of home-school communication and collaboration, including: 1) assistance and information given to parents relating to child rearing, child development, and the development of the requisite conditions for learning at home; 2) communications regarding the individual child's progress, as well as the programs, goals, and objectives of the school; 3) solicitations of parents to be involved in activities at the school (e.g., field trips, career awareness, etc.); 4) solicitations of parental involvement in learning activities with the child at home; 5) inclusion of parents in school decisions, governance, and school-related organizations (e.g., PTA/PTO), and 6) assistance with the incorporation of community resources into the on-going activities of the school, as well

as the development of community partnerships that provide learning activities for students outside of the school setting.

In the following brief review of the research on home-school links, and in our organization of the empirical constructs investigated in this study, we adopt Epstein's typology of parent involvement techniques and assess changes in the frequency with which these techniques are used across the span of the elementary school years. In this report, we focus specifically on home-school communications, the use of parents in the classroom, requests for parents to work directly with their child at home, and parent involvement in school organizations such as parent-teacher associations.

Frequency of teacher strategies to involve parents

The central role of school-based practices in eliciting parent involvement, coupled with data that suggest relatively low levels of parent involvement in school raises several interesting and important questions. First, is the low level of parent involvement evidence of a significant communication gap between what teachers try to accomplish by way of parent involvement strategies, and how parents actually interpret and respond to involvement practices originating from the school? That is, are the strategies used by schools to communicate with and solicit parent involvement ineffective, and this leads to less parent involvement? Alternatively, are schools simply are not asking much of parents, with the result that parent involvement is limited by the extent of knowledge parents have on their own about how to be an effective participant in their child's education?

In general, research to date points more to the second hypothesis: namely, that schools are not very active in soliciting parent involvement. For instance, while some schools and teachers adopt basic communication practices such as parent-teacher conferences, progress reports on the child, and information regarding school events, (e.g., curriculum, classroom goals), a surprising number of parents report not receiving even some of these basic communications from the school (Epstein, 1986). The discrepancy

between teachers' reports of widespread use these strategies, and the reports of a number of parents suggesting they do not receive these communications may also reflect the possibility that basic information is not provided to the home in a clear, effective, or frequent manner.

Even more problematic is evidence suggesting that only a small proportion of teachers initiate involvement with parents beyond these basic obligatory practices (Becker & Epstein, 1982). Strategies that focus on encouraging parent involvement in learning activities with the child at home other than reading, such as participation in enrichment-type activities with their children (e.g., visits to museums, watching and discussing educational television programs, playing academic-type games) are often endorsed by teachers as positive possibilities, but are infrequently used.

It may also be that some of the strategies endorsed and used by teachers and administrators are ineffective at involving parents simply because they are not attuned to the social-cultural-historical situation of a given community, which in turn leads to a lack of parent involvement (see Epstein, 1987b). For instance, Epstein (1986) suggests that while most parents are not involved in classroom assistance activities, research has shown this to be a frequently endorsed strategy of involvement by teachers and administrators (Ogbu, 1974 as cited in Epstein, 1986). The effectiveness of strategies to involve parents in activities at the school inevitably depends in part on various family and community characteristics, such as the proportion of the parents who work full time (see Eccles, 1992; Eccles & Harold, 1993), and the attunement of involvement strategies to the specific circumstances of the parents' lives. Thus, even strategies reported to be used frequently may be irrelevant if they do not fit the day to day circumstances of a given community.

Changes in strategy use by teachers across the elementary years

Another important issue relating to home-school connections concerns the changing patterns of involvement strategies used by teachers across the elementary

school years. This aspect of the study of parent involvement focuses on questions concerning the prevalence of different strategies during different developmental periods, and their impact. Most of the studies that have been done to date on changes in parent involvement across different grade levels have been cross-sectional. The results of these studies are equivocal, but when grade level differences are found, the use of strategies to involve parents is least frequent at higher grades. For example, in a cross-sectional study of grades 1, 3, and 5, Becker and Epstein (1982) found a decline in every type of parent involvement strategy used by teachers, including teachers' efforts to develop parents' tutoring and monitoring skills, and teachers' requests for parent involvement in reading, in discussion with the child, in other educationally relevant activities. However, with the exception of requests for parents to read with their children, these declines were relatively small. In contrast, no such grade level differences were found in a cross-sectional analysis of grades 2,3, and 5 conducted with an early wave of the study reported on in this paper (Eccles & Harold, 1994; Harold, Blumenfeld, Yoon, Eccles, Wigfield & Roeser, 1991). In this analysis, teacher communications concerning classroom procedures, ideas on how parents can monitor and support their child's schoolwork, requests for parents to work with children at home, and encouragement for parents to get involved in the classroom showed no statistically significant differences in frequency across grades 2,3, and 5. Finally, in both Epstein's and Eccles' research programs, more home-school connections occur in elementary schools than in middle or high schools (Eccles & Harold, 1994; Epstein, 1994).

In sum, while evidence suggests that teacher-based parent involvement strategies are used fairly infrequently even in elementary school, they are used by some teachers at all grade levels. Whether their use declines over the elementary school years is less clear. What is needed is a longitudinal study that focuses on change over time during the elementary years. To assess the issue of *frequency of use over time* of various parent involvement strategies, we examine the longitudinal patterns of change in different

strategies over grades 1 through 6.

Changes in actual parent involvement behaviors across the elementary years

While an understanding of patterns of teacher strategies to involve parents is important to understanding home-school connections, teacher data provide only one part of the story. Parent reports of what they perceive they are asked to do, and what they actually do to get involved with their child's education are also an essential part of understanding the dynamic relationship between the home and school. To date, few studies have been done linking teacher and parent data, however (Epstein, 1986).

Studies show that with increasing grade level during the elementary years, certain strategies are used less by parents, while others are used with consistent frequency. In our cross-sectional work, we found that parents of fifth graders were less likely to monitor their child's school work than those with children in the early elementary grades, but that parents' direct involvement at home, parent-initiated school contacts to check on a child's progress, and parents' volunteering for activities at the school did not differ in a statistically significant way across grades 2, 3, and 5 (Eccles & Harold, 1994; Harold et al., 1991). It appears that the largest declines in actual parent involvement behaviors seem to occur when children make the transition into a middle school setting (Carnegie, 1989; Dauber & Epstein, 1989; Eccles & Harold, 1994; Harold et al., 1991).

Several hypotheses have been put forth to explain declines in parent participation in a child's education with increasing grade levels, especially near the middle school transition (e.g., Carnegie, 1989; Eccles & Harold, 1993). For example, it could be that parents believe that they are less able to assist their children as they move into the upper elementary grades and beyond, or that non-involvement is a way to support a child's burgeoning need for independence (Carnegie, 1989; Epstein, 1986; Eccles & Harold, 1994). These beliefs, in turn, might diminish involvement behaviors. Equally important, however, is empirical support for the fact that with increasing grade level, parents report less frequent teacher communications and solicitations for involvement in school and at

home. The confluence of particular parent beliefs, and the diminishing efforts of schools to encourage and educate parents in the role of being an effective educational participant may inevitably lead to increasing distance between the home and school (Epstein, 1986; Eccles & Harold, 1993; 1994). Just how teacher solicitations of involvement and parents' actual involvement relate to one another over the course of the elementary years is examined in the final part of this study.

Research Questions & Hypotheses

In an effort to address questions concerning the pattern of teacher and parent efforts to forge home-school connections during the elementary school years, we pursue three main purposes in the present study. First, we document longitudinal changes in the frequency with which teachers use different parent involvement strategies across the elementary school years. We describe both what teachers report they do to enlist the involvement of their students' parents, as well as the perceptions of the parents themselves concerning the teachers' use of various involvement strategies. Second, we examine changes in the frequency with which parents engage their child in various academic and school-related activities. Finally, in an effort to understand the relations among what teachers say they do in terms of involving parents, what parents perceive they are being asked to do by their child's teachers, and what educational activities parents actually engage in with their children, we examine the bivariate linkages among these three sets of measures at each wave of the study.

Based on prior research on parent involvement during the elementary school years, we hypothesize that (1) in general, elementary school teachers will report infrequent use of general strategies to involve parents beyond the provision of classroom information (Eccles & Harold, 1994); (2) parents will corroborate this in that they will report infrequent solicitations for involvement from their child's teachers (Epstein, 1986; Harold et al., 1991); (3) teachers' use of parent involvement strategies of all kinds will

decline with increasing grade level, though the magnitude of these declines will be small (e.g., Becker & Epstein, 1982); and (4) that parents' actual involvement with their child will be greatest in reading in the early grades, and that this strategy and others (e.g., monitoring work, involving child in educationally-relevant activities) will remain unchanged or decline only slightly with increasing grade (Eccles & Harold, 1994; Epstein, 1986). In terms of the bivariate relations among the teacher requests and parent perceptions of these requests, two possible outcomes follow from previous work: (1) teachers and parents will not share common perceptions of how frequently the teacher initiates various strategies to involve parents, and thus will yield small correlations between teacher practices and parent perceptions of these practices (Epstein, 1986); or (2) teachers and parents will both report parent involvement efforts by schools as infrequent, and thus yield modest to strong correlations. We expect small correlations between teacher requests and parents' actual involvement based on our previous findings that while teachers make infrequent requests for involvement, parents nonetheless stay involved in their children's education (Eccles & Harold, 1994).

Method

Participants

The participants for this study include children, their families, and their teachers who were involved in a cross-sequential, longitudinal study aimed at understanding the ontogeny and development of children's self and task-related beliefs (Eccles, Wigfield, & Blumenfeld, 1984; Eccles, Wigfield, Harold & Blumenfeld, 1990). Children were drawn from approximately eighty classrooms in 12 schools, in four primarily White, lower-middle to middle class school districts in a midwestern urban community. The study began in two of the districts with approximately equal size cohorts of children in kindergarten, first, and third grade. During the second year of the study, two additional districts were added. These students, like the original sample, were then in grades one,

two, and four. The three cohorts of children were followed for four and three years respectively[1]. In total, approximately 900 children, two-thirds of their parents, and their teachers participated by completing questionnaires and interviews.

The families

The families of the children in our study can be characterized as mainly two-parent intact (93%), middle class, and Caucasian (95%). The family income for the sample at Wave 1 ranged from $10,000 to over $80,000. The average income was between $40,000 and $50,000. On the average, mothers worked for pay 25.93 (s.d.=15.30) hours per week while fathers worked for pay 44.45 (s.d.=13.30) hours per week. This is a significant difference ($t=8.07$, $df=92$, $p<.001$). Parents' education was coded on a scale of 1=grade school through 10=advanced professional degree. The mean education rating for fathers was 5.44 (s.d.=1.88), where 5=an associate arts degree and 6=a four year undergraduate degree. The mean rating for mothers was somewhat lower at 4.80 (s.d.=1.73), where 4=some college or technical school training. A t-test comparing parents' education found that fathers were significantly more highly educated than mothers ($t=4.86$, $df=208$, $p<.001$).

The teachers

The child's elementary school teachers were also included in the present study. Approximately eighty teachers participated during each wave, with equal numbers of teachers for each grade level in each wave of the study (Wave 2: N=70; Wave 3: N=77; Wave 4: N=80). At each wave, the teachers were predominantly female (Wave 2: 89%; Wave 3: 80%; Wave 4: 85%), and their average age (measured at Wave 3 in 1989) was 43.17 years (s.d.=8.90). During the third and fourth waves we also asked teachers the number of years they had been teaching full time, as well as the number of years they had

[1] We use data from Waves 2-4 in the present study. At this time, we had three groups of children:
Cohort 1=Grades 1,2,3 across Waves 2-3-4 of the study.
Cohort 2=Grades 2,3,4 across Waves 2-3-4 of the study.
Cohort 3=Grades 4,5,6 across Waves 2-3-4 of the study.

been instructing children at the grade level they were currently teaching. The average length of full-time teaching reported in 1989 was 16.04 years (s.d.=8.65), and 16.56 years (s.d.=9.71) in 1990. The average length of time they had taught at their current grade level was 6.90 years (s.d.=6.14) and 6.91 years (s.d.=6.01) in 1989 and 1990, respectively. In terms of educational experience, at least half of the teachers reported having a Masters degree by the last two waves of the study (Wave 3: 50%; Wave 4: 61%).

Measures

For purposes of this study, we focus on a subset of the teacher and parent measures collected during the second, third, and fourth years of data collection (Wave 2-1988, Wave 3-1989, Wave 4-1990) to examine patterns of parent involvement at home and in school. As others have noted, the influence of parent involvement strategies by teachers on parents is often mediated through the child. In order to understand the changes in teacher efforts to involve parents, as well as changes in the frequency with which parents engage in educational activities with their child from the *perspective of a child's experience*, we link parents and teachers using the child as the unit of analysis. In addition, we focus in this report on the responses of the children's mothers only, although we also collected data from the fathers. Results contrasting parental involvement of mothers and fathers for this sample were presented in another paper (Eccles & Harold, 1994).

Teacher measures

Teachers filled out a general survey of their pedagogical practices and beliefs each year, as well as individual questionnaires on each child in their classroom. Subsets of variables from the general teacher survey concerned with parent involvement in school are used here. Factor analysis and Epstein's conceptual framework were used to guide scale construction for the teacher measures. Likert-type rating scales and dichotomous

checklists of behaviors were used to assess the frequency and amount that teachers used various parent involvement strategies. Because the Likert items were assessed on a 5-point scale Wave 2, and a 7-point scale Waves 3 and 4, a common metric was created to compare scales across all waves. All of the scales (with the exception of scales reflecting counts of various behaviors) had high internal reliability coefficients, and are presented in the Appendix.

In this report, we define "teacher's parent involvement strategies" to include several general, classroom-wide practices aimed at the parents of all of the students in a given classroom. We recognize these practices may differ from strategies teachers may use with parents of individual children who have specific needs. The general involvement practices we examine using teacher reports include (1) communications to the home; (2) solicitations of parent involvement in the classroom; and (3) requests that parents get involved with the child at home.

Communication scales included the frequency with which teachers provided parents with positive and negative feedback concerning their child's academic performance, assignment completion, and behavior in class (8 items, alphas=.70-.85 over 3 waves); communication to the home about class objectives and procedures (7 items; alphas=.71 -.96); and provisions of information about how to support and monitor the child's educational activities (4 items; alphas=.61-.91). One scale was created to assess teachers' use of parents as volunteers at school, and was a count of the number of activities such as clerical help, field trip chaperoning, and career awareness for which teachers sought parent help. Three scales assessed teachers' requests for parents to work at home with their child. These included the frequency of requests that parents work directly with their child on projects, reading and homework (8 items; alphas=.76-.91); the frequency of requests and suggestions for parents to engage their children in extra-curricular activities (3 items; alphas=.75-.93); and a simple count of the number of academic activities in which teachers encouraged parents to get involved.

Parent Measures

Beginning in Wave 2 of the study, parents were mailed surveys to their home each year of the study to complete and return. Items drawn from the surveys that parents completed during Waves 2-4 that specifically assess parents' perceptions of their child's school, as well as their own involvement in their child's education are used in this study. Both factor analysis and conceptual considerations guided the construction of the parent involvement measures. Both Likert rating scales and checklists were used to assess the parent involvement constructs, and a common metric across the three waves of data was constructed to allow for longitudinal comparisons (see Appendix for details). We focus on the responses of mothers here.

Two main sets of measures were examined, including mothers' perceptions of various involvement strategies used by teachers, and mothers' reports of their own involvement behaviors. In terms of parents' perceptions of involvement strategies originating from the school, we looked at (1) perceived communication practices, and (2) perceived requests for at-home involvement with their child. Mothers' perceptions of communication practices included reports of the percentage of several basic obligatory kinds of information they received from the school during the year (6 items, alphas .69-.74 over the 3 waves); and counts of the types of feedback they received for positive child outcomes (3 items, alphas .62-.69), and negative child outcomes (4 items, alphas .74-.76) across the school year. For these scales, types of feedback included notes, phone calls, and parent-teacher conferences. We also constructed two scales to assess mothers' perceptions of how often the teacher requested them to work at home with their child. These scales assessed teacher requests to help their child with general academic activities (9 items, alphas= .85-.89 over the 3 waves) and to involve the child in extra educational activities (3 items, alphas=.73-77). Two subscales of the "requests for academic involvement" scale were also examined: homework monitoring (2 items, alphas=.91-.93), and requests for parents to work with their child on school projects (2 items,

alphas=.82-.86).

Finally, four additional scales were constructed that measure mothers' actual involvement in terms of (1) involvement at home with their child, (2) volunteering at school, and (3) involvement in school organizations. At-home involvement scales included the frequency with which mothers engaged with their children around general schoolwork activities (3 items, alphas=.74-.79), around reading activities (2 items, alphas=.76-.79), around discussing school (2 items, alphas=.69-.79), and around computer activities (2 items, alphas=.85). Dichotomous variables assessed the percentage of mothers who reported involvement as volunteers at the school, and as members of school-parent organizations. All scales were reliable, and items and alpha reliability coefficients are presented in the Appendix.

Analysis Plan

Given our larger goal of understanding the social contextual influences on the ontogeny and development of children's achievement beliefs, as well as the fact that school-home linkages are often mediated by the child herself, we used the child as the unit of analysis in the study presented here for analysis of mean changes over time in teachers' use of parent involvement strategies, mothers' perceptions of these teacher strategies, and mothers' actual involvement in school. This provides a picture of the changing experiences from the perspective of the child herself regarding parent involvement. Repeated measures MANOVA procedures were used to examine changes in these three sets of variables across the elementary school years. Between subjects factors included child's cohort, while within subject factors included three time points (Waves 2, 3 & 4). In interpreting the findings below, "cohort" effects are related to "age level" effects, while "time by cohort" effects are related to changes in variables over time and across specific grades. Bivariate correlations are used to examine the relations among teacher involvement strategies, parent perceptions, and parent activities.

Results

Teachers' use of communication strategies

The results for analyses of changes in the teacher measures are presented in Tables 1-2 below. Means and standard deviations are presented first, with the MANO A results following the descriptive statistics for each set of variables. Tables 1a and 1b display the results for longitudinal patterns of change in teachers' use of various communication strategies designed to keep parents informed.

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Insert Table 1a and Table 1b
about here

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Teachers of all grades indicated that they sent home a lot of information that explained classroom goals and procedures, including things such as how to interpret test scores, and how to understand report cards and ability grouping placements. In fact, teachers of all grades reported sending home about 70% of these kinds of basic pieces of information that parents would need in order to easily understand their child's progress, group placement, and achievement. While no cohort effects were found for this measure, over the course of time there was a statistically significant decline in the proportion of these messages sent home from Time 1 to Times 2 and 3, though the magnitude of decline was small (78%-70%). This effect occurred only in the youngest and eldest cohorts.

Another important component of teachers' communication with parents is the frequency with which teachers provide parents information on strategies to support and monitor children's schoolwork. In general, this practice was used infrequently, or only on an "as needed" basis by teachers. Again, although no cohort effects were found, there was a slight downward trend over the elementary school years on the frequency with which this type of information was provided to parents.

In terms of the frequency of feedback to parents concerning both positive and negative child behaviors (e.g., conduct, achievement, and assignment completion), several small but statistically significant changes were noted. First, the frequency with which teachers reported using each type of feedback (e.g., positive and negative) was low for positive contacts ("infrequently" to every 2 or 3 months), and slightly more frequent for negative reasons (about once a month). The frequency of positive feedback showed a significant time by cohort interaction, with teachers' feedback to parents for positive child outcomes declining between 4th and 5th grade, but rebounding at 6th grade. A similar significant pattern of change was noted for teachers' use of negative feedback: the frequency increased from 1st to 3rd grade, declined slightly between 4th and 5th grade, and rebounded at 6th grade. In general, though statistically significant, the magnitude of these changes was small.

Teachers' requests for parent involvement at school and in the home

We asked teachers how often they requested parents to get involved with their child in various educational activities in the home. These results are presented in Tables 2a and 2b. While most teachers reported at least some use of requests for direct parent involvement in core academic activities (e.g., reading with child, practicing skills before tests), these requests were made fairly infrequently (less than once a month). Nevertheless, a significant time effect indicated that across the three years of this study, there was a general increasing trend in the frequency of these requests across all grade levels. This effect is pictured in Figure 1. Similarly, teachers' requests that parents engage with their child in other educational activities (exhibits, television shows, etc.) were also made infrequently (i.e., less than once a month). A significant time by cohort effect showed that the frequency of this type of request for parent involvement increased during the first few years of elementary school and then declined in later years.

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Insert Table 2a, Table 2b and Figure 1
about here

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Results for changes in the number of activities teachers requested parents to volunteer for at school (e.g., field trips, clerical help, helping out in the classroom,), and the number of academic activities (e.g., reading, spelling) teachers requested parents get involved with are also presented in Tables 2a and 2b. MANOVA results for the latter suggested an increase in these requests for each cohort from Time 2 onwards. Results also showed indicated significant main and interaction effects for both of these measures, with the mean number of teacher-solicited involvements in both types of activities peaking during the 3rd grade and declining thereafter.

Mothers' perceptions of teachers' use of communication strategies

Next, we examined mothers' perceptions of the kinds of strategies used by their child's teacher to keep them informed and involved. Results for these analyses are presented in Tables 3a and 3b, and Figure 2 below. First, we examined mothers' perceptions of the teachers' use of communication strategies. In terms of information on classroom goals and procedures, mothers reported receiving only about 33%, or two of the six types of information we asked about, which included information on report cards, interpretations of standardized test results, ability group placements, etc. Although there were no statistically significant changes in the reported amount of this type of information received over time or across grade levels, this 33% average contrasts markedly with teacher reports from each time point in the study in which they said that they sent about 5 out of 7, or 70% or more of these same discrete types of information to parents. The comparison of teacher and parent reports is depicted in Figure 2[2] .

[2] In this figure, and in Figures 3 and 4, we collapse population means from similar grades across different cohorts to draw a single profile of any given practice over grades 1 through 6. The starred (*) grades on the X-axis indicate where two estimates have been collapsed from different cohorts.

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Insert Table 3a and Table 3b
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In terms of mothers' reports of the feedback they received concerning positive and negative child outcomes, little change was noted over time or across grades (cohorts). A small, significant cohort effect was found for positive feedback, and indicated that mothers of younger children reported receiving slightly more notes, phones calls, or requests to attend conferences concerning positive behavior on the part of their children. In contrast to the teacher reports about what they were more likely to contact parents about, mothers reported receiving more positive than negative types of feedback at each time point of the study.

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Mothers' perceptions of teachers' requests for at-home involvement

Next, we examined mothers' perceptions of teacher requests for their involvement in their children's education at home. These results are presented in Tables 4a and 4b, and Figure 3. In general, mothers corroborated the teacher reports of requests for at-home involvement of parents (see Figure 3). At every grade level, mothers reported that teachers "infrequently" requested that they help their children with school-related activities, or with other educationally-relevant activities at home. A significant time effect for mothers' perceptions of requests to engage the child in other educationally relevant activities, and a significant time by cohort effect in perceptions of requests to do

projects with the child were negligible (changes from between 1=never to 2=infrequently).

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Insert Table 4a, Table 4b and Figure 2
About Here

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Mother's actual involvement at school and in-home involvement

Finally, we examined mothers' reports of actual involvement behaviors, including (1) participation in school activities and organizations, and (2) involvement in academic activities with their child at home. Tables 5a and 5b present the results of parent involvement at the school. A significant time effect was found for mothers' reports of volunteering for school activities. At Time 1 (1988), the frequency of mothers who reported this type of involvement was 34% across all grade levels, while the proportion of mothers volunteering in school increased to 52% and 53% during Times 2 and 3 (1989 and 1990). No significant cohort or cohort by time effects emerged, indicating a general trend for parents of children in all grades to get more involved in school activities over these years. For participation in school organizations, we found no significant differences by time, cohort, or their interaction. In general, about 49% of mothers of children in all grade levels were involved with parent-teacher organizations each year.

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Insert Table 5a and Table 5b
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Table 6a shows the means for the frequency of mothers' at-home involvement in various academic activities with their child, while Table 6b shows the MANOVA results. Despite the low frequency with which teachers requested parents to get involved directly

with their children at home, mothers reported that they engaged in academic activities with their child about one time per week. A significant time by cohort effect indicated that by the upper elementary grades, the frequency of this type of involvement was declining to about 2 to 3 times a month, especially among six graders (see Figure 4). Additionally, a significant time effect indicated an slight increase of the frequency of at-home involvement across Times 1 and 2, and a decline during Time 3.

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Insert Table 6a, Table 6b and Figure 4
About Here

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In terms of the frequency with which mothers read with their children, our results showed this to be a frequent activity of mothers of younger children that declines sharply with increasing grade. Significant main effects of cohort and time indicated that mothers of children in first and second grade read with their child several times a week, with the frequency of this activity declining to "infrequent" in the middle and upper grades. Engagement with the child in computer activities was done only occasionally by mothers, with a slight but negligible increase from Time 1 to Times 2 and 3 across all grades. Finally, mothers reported that learning-oriented discussions with their child were a frequent activity at all grade levels, and said they discussed school, current events, and other information with their child at least several times a week. For the two youngest cohorts, there was an increase in the frequency of these discussions across each grade from first to fourth, while the mothers of the eldest cohort reported increasing engagement in these discussions as their child moved from fifth to sixth grade. Similar to some of our other indices of involvement, mothers' engagement in discussion with their children also increased across each time point of the study.

Correlations of teacher and parent reports

The last series of analyses examined the bivariate correlations among teacher and parent reports of indices of parent involvement at each time point of the study, collapsing across grades within each particular wave. We examined the relations of teacher-initiated communication strategies to mothers' perceptions of these strategies, and teacher requests for involvement with mothers' perceptions of these requests and their actual involvement behaviors. These results are presented in Tables 7-9.

In examining the relations among teacher-reported communication strategies, and mothers' perceptions of these strategies, we find the correlations between teacher and parent reports of basic information provided to the home, and the frequency of positive and negative feedback to be close to zero. Only 2 of 27 of these correlations were significant (7%), and thus they remain uninterpreted.

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Insert Table 7
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Tables 8 and 9 present the correlations of teacher requests for parent involvement at home and at school, mothers' perceptions of these requests, and mothers' actual involvement behaviors. For these analyses, we examine both the full scales of teacher requests for parents' at-home and in school involvement, as well as several subscales that asked more specifically about the frequency with which a teacher asked for parents' home involvement in monitoring homework, doing projects, and reading with their child. Again, these results suggest virtually no significant relationships between teacher-reported practices and mothers' perceptions of these practices, or what mothers actually reported doing educationally with their children. These and other results are discussed further below.

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Insert Tables 8 and 9
About Here

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Discussion

The results of this study support our general hypotheses that teachers are not using general, classroom-wide parent involvement strategies very often beyond the provision of basic information on classroom procedures. Teachers in this study reported that they infrequently requested at-home involvement of parents in academic tasks or other educational activities. In general, as predicted, mothers' reports of teachers' involvement practices corroborated the teacher data at the aggregate (mean) level. They reported that they were asked infrequently by their child's teachers to get directly involved with schoolwork, and said they were almost never asked to engage with their child in extra educational activities. In addition, mothers reported that they received substantially less basic communications from teachers than the teachers reported sending to the home. While we did find some significant changes in practices across grades and over time, in most cases these changes were small. Finally, the fact that teachers' and mothers' reports shared very few significant bivariate relations may indicate a substantial lack of communication between what teachers do and what mothers perceive they are asked to do in terms of involvement. This lack of communication may reflect the infrequency of these practices, or the fact that variability of parent perceptions of any particular teacher are much greater than across teachers, or both. Overall, our results support the notion that schools are not very active in their efforts to engage parents at any grade level during the elementary years, and that in some instances, the strategies they are using are ineffective insofar as they are not being acknowledged by parents.

Despite the general lack of effort by schools to involve parents, our results also indicate that mothers are involved quite frequently in their child's education across the

grades that span the elementary years. Specifically, mothers reported that they worked with their children on reading frequently in the early grades, on school activities at least several times a month across all grades, and engaged them in educationally relevant discussions even more frequently through the upper elementary grades. These findings suggest, as have those of others, that parent involvement is occurring with little support or encouragement from schools, and as such, may represent a largely untapped resource that could be capitalized upon with certain basic efforts on the part of schools (Becker & Epstein, 1982; Eccles & Harold, 1993; 1994). Furthermore, despite the relative lack of use of parent involvement strategies by teachers, we know that in general, teachers endorse the idea that parent involvement plays an important role in a child's educational success (e.g., Becker & Epstein, 1982) If this situation is to change, it is important to understand why might this be so.

The lack of teacher-initiated parent involvement efforts despite positive attitudes towards these practices may indicate several things. First, we know that teachers view parent involvement as a complex phenomena, and while endorsing its utility, often admit to not knowing how to effectively encourage parents to get involved with their child's learning (Becker & Epstein, 1982). Thus, it could be a teacher-training issue. Second, the role of principals' leadership in fostering teachers' involvement of parents seems important, but may not be a high priority for school leaders trying to adjust to and address the myriad mandates for improvement and reform. To the extent that principals do not view parent involvement as a centrally important activity, and encourage and support this outreach activity in tangible ways, teachers may be less inclined to encourage it (e.g., Maehr, Midgley & Urdan, 1992). Third, while research suggests many teachers and administrators view parent involvement as desirable, there is some evidence that teachers and administrators may believe that parents living in high risk communities (e.g., low income, minority neighborhoods) are incapable of assisting in their child's education, and thus discourage parent involvement (Becker & Epstein, 1982; Comer, 1980; Eccles &

Harold, 1993). However, extant evidence suggests that it is not always the case that parents in high risk communities are unwilling or unable to help, and this needs to be brought to the attention of school leaders and teachers alike.

An alternative explanation for the low reports of parent involvement strategies by teachers could be that teachers' efforts at home-school connections operate more at the individual student level than at the classroom level. For instance, in our data, we also asked teachers to report home feedback strategies they used with individual students. Specifically, we asked if the teacher had ever provided any of their individual students' parents with feedback beyond the normal report card and parent conference procedures. In each wave of data collection, teachers reported doing this for a large variety of reasons with about 45% of their students. Thus, in the absence of comprehensive strategies designed to involve parents of all students in the classroom, teachers' use of this type of individualistic feedback may be the most widely used type of home feedback. The impact of this particular kind of feedback from school on parents and children represents an on-going goal of our research on home-school linkages and child development.

Finally, the use (or lack thereof) of parent involvement strategies needs to be viewed in the context of the total repertoire of strategies that teachers and principals can potentially use to increase the educational success of their students. To the extent that teachers are unknowledgeable about how to effectively increase parent participation in their child's education, and lack leadership or pressure to motivate them to do so, and to the extent that they are faced with large class sizes, increasing mandates concerning content coverage, and difficult student populations, these kinds of educational strategies may remain largely untapped. That families are increasingly comprised of dual wage earners or single parents who are employed outside the home, and may be perceived by teachers as having less time to spend with their child on school activities, teachers may be hesitant to ask for help. Certainly there seems to be some truth to this (e.g., Eccles & Harold, 1994), but our results also make it clear that parents are staying involved in their

children's schooling, despite the fact that schools are not really encouraging this. Thus, in an era where a variety of reform strategies are being experimented with in schools all across the country, it seems plausible to suggest that one way to foster better educational outcomes for children is to tap into the parent involvement that is already occurring, and to improve the types of communications schools send home so the messages are received by parents.

Several school-based programs already exist that attempt to provide parents with some supplementary training so that they might be more informed, helpful and feel more confident in their ability to assist their children. Family Math and Family Computers are two exemplary programs with this goal. These programs, run at the school in the evenings and weekends by teachers, attempt to provide supplementary educational experiences for students and parents alike. They seem to be fairly inexpensive to introduce and sustain in a school system, and seem to have generated enthusiasm among parents and teachers alike (Eccles & Harold, 1994). Additional ideas come from reports such as the one produced by the Carnegie Corporation (1989) on adolescence. In "Turning Points," the Task Force on Education of Young Adolescents for Carnegie provides a blueprint for structured school programs that would assist in the formation of cooperative home-school linkages and clearer communication, including the use of school orientation programs, in-school advisors assigned to each student, inclusion of parents in school governance, and the creation of curricula the require parent-child interaction at home.

Finally, Epstein and Eccles have provided both specific recommendations to principals and teachers about how to encourage parent involvement, as well as comprehensive models linking home and school structures (Eccles & Harold, 1993; Epstein, 1987a; 1989). For instance, in an article addressed to school principals, Epstein (1987a) recommends sixteen practices designed to include parents such as the creation of academic tasks that require parent-child interaction, ideas on providing parents with information that serves to increase their effectiveness as helpers, and recommendations for

schools to invite parents in simply to observe the daily activities of the school. Similar and complementary suggestions have appeared elsewhere (Carnegie, 1989; Eccles & Harold, 1993). In a more theoretical paper, Epstein (1989) develops a comprehensive framework for relating home and schools ("T.A.R.G.E.T." - **T**asks, **A**uthority, **R**ecognition, **G**rouping, **E**valuation, and **T**ime). This framework could be used to help teachers design information and requests for at-home involvement that would serve to expand parents' knowledge of how to assist their child at different developmental stages, as well as their on-going educational activities with their children at home.

Each of the sources discussed above provides important possibilities to experiment with and assess in the current climate of school reform initiatives. As others have noted (e.g., Eccles & Harold, 1994; Epstein, 1994), more longitudinal research is needed to help us gain a better understanding of how and when parent involvement strategies impact not only parents, but also children in terms of motivational and behavioral outcomes. Furthermore, more research should be directed towards understanding how parent involvement strategies compare to other initiatives or innovations that schools might adopt in an effort to more fully accomplish their educational mission. What seems clear from our results is that parents <u>are</u> doing academic activities with their children, and this is one potential resource which schools might better utilize.

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Figure 1.

Frequency of Teachers' Requests for Direct Parent Involvement at Home

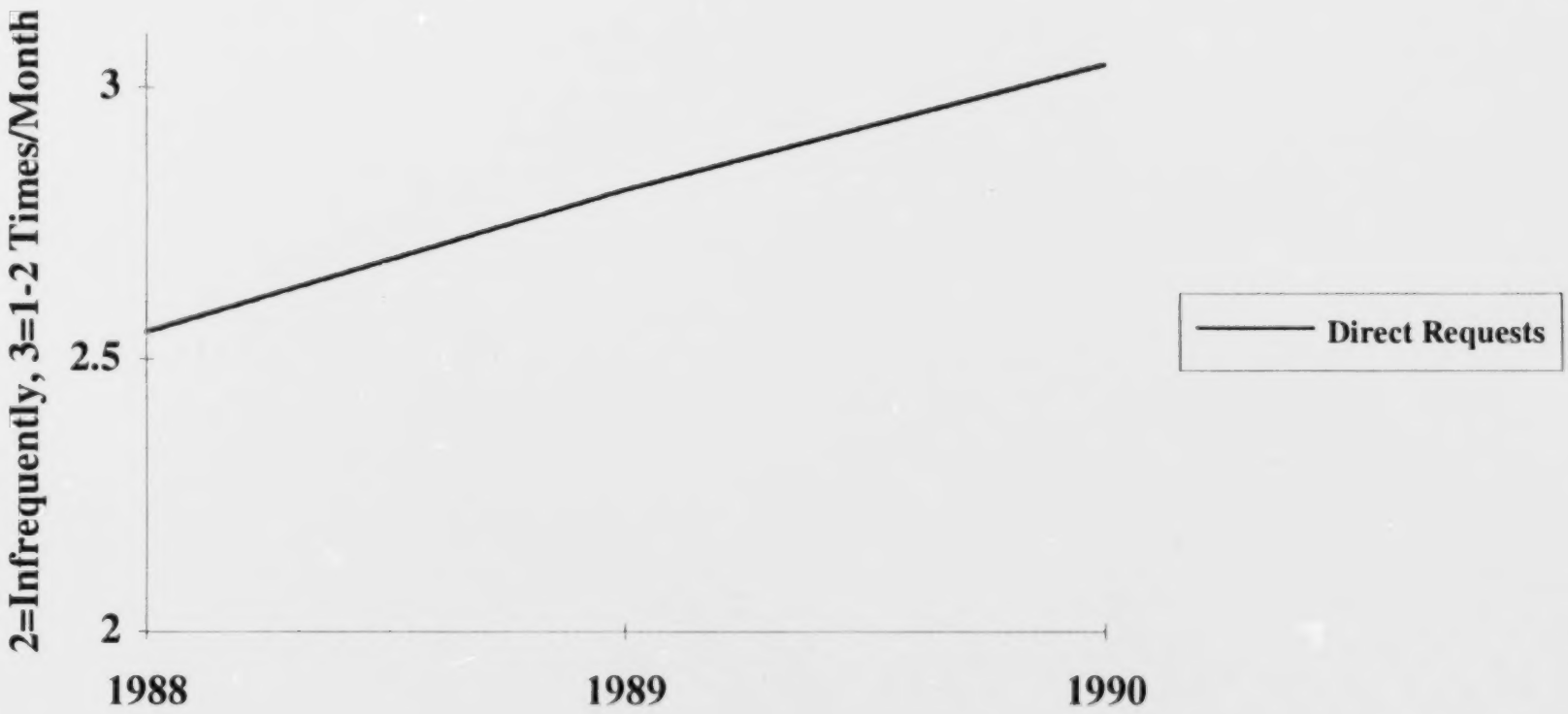

Figure 2.

Percentage of Basic Types of Information on Classroom Procedures Sent Home Across Grades: Teacher and Parent Reports

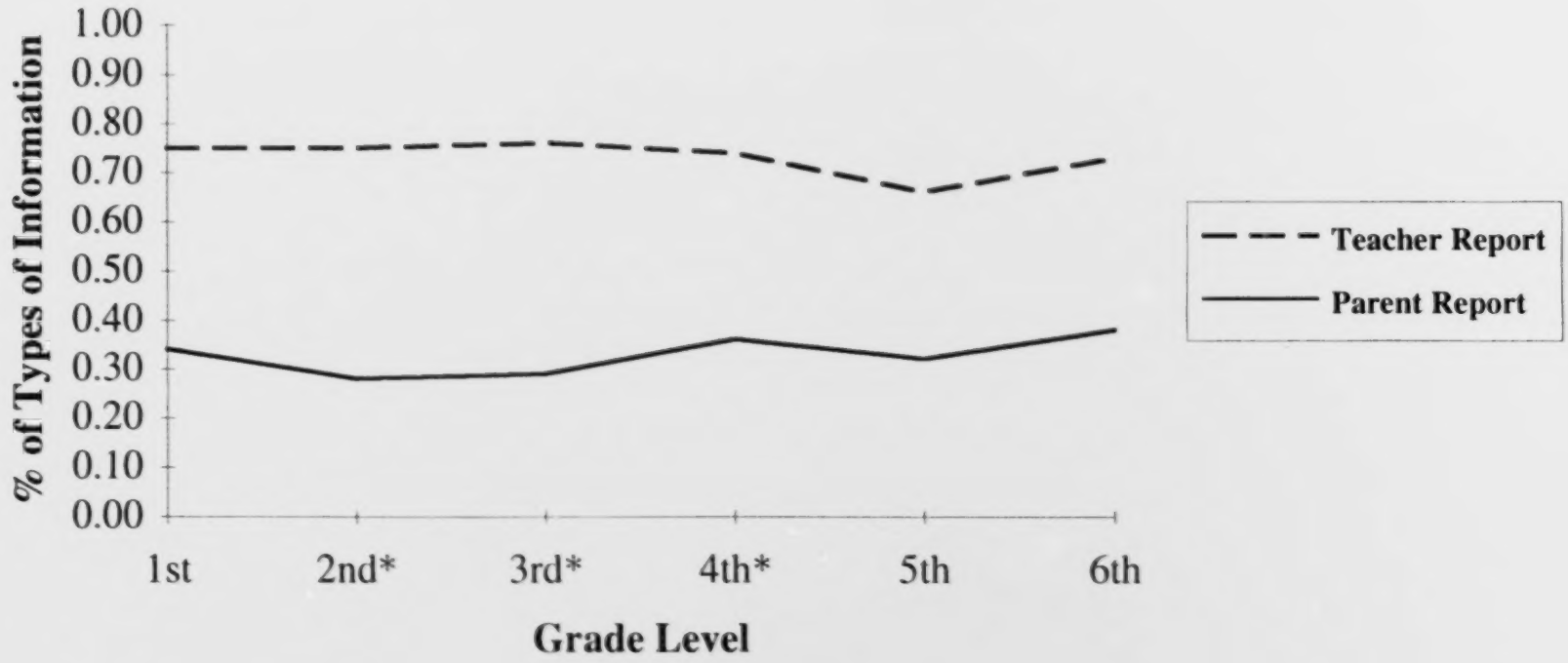

Figure 3.

Teacher Requests for Home Involvement Across Grades:
Teacher and Parent Reports

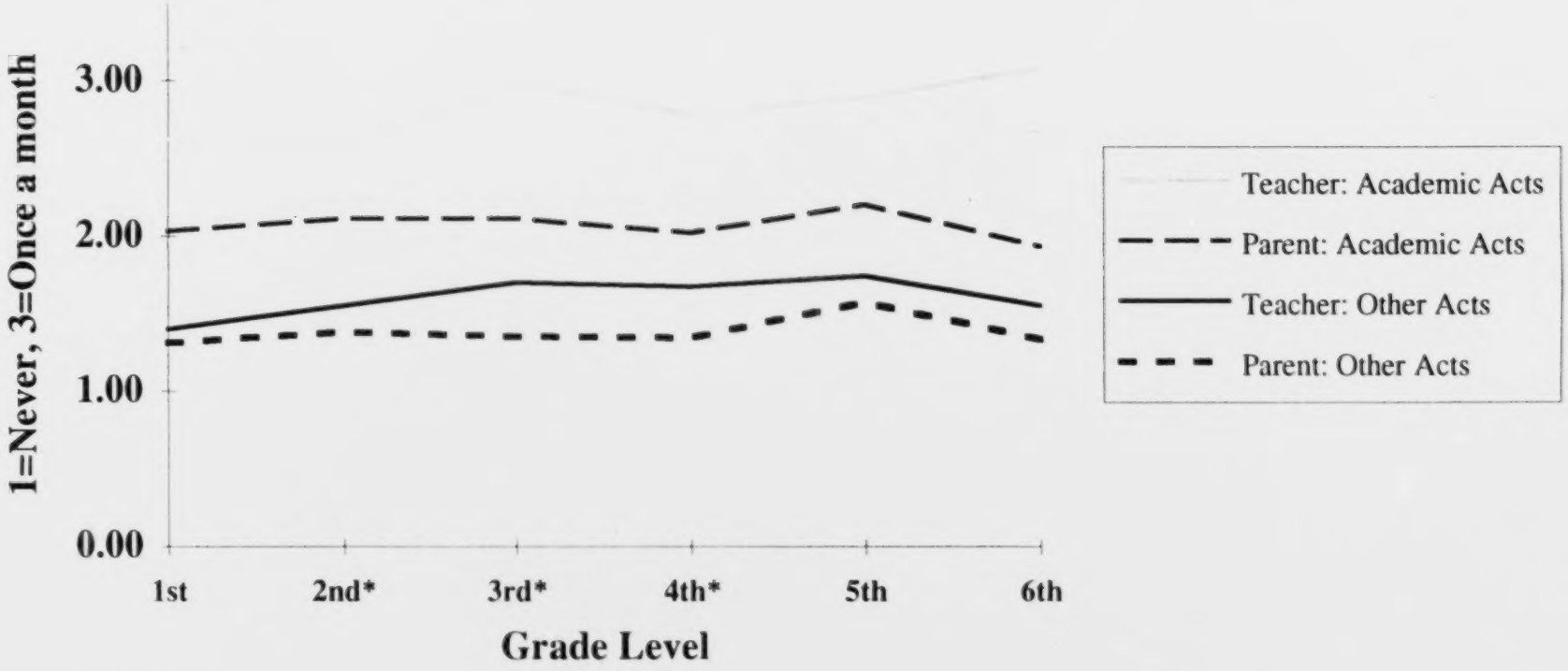

Figure 4.

Mothers' Actual At-Home Involvement Across Grades

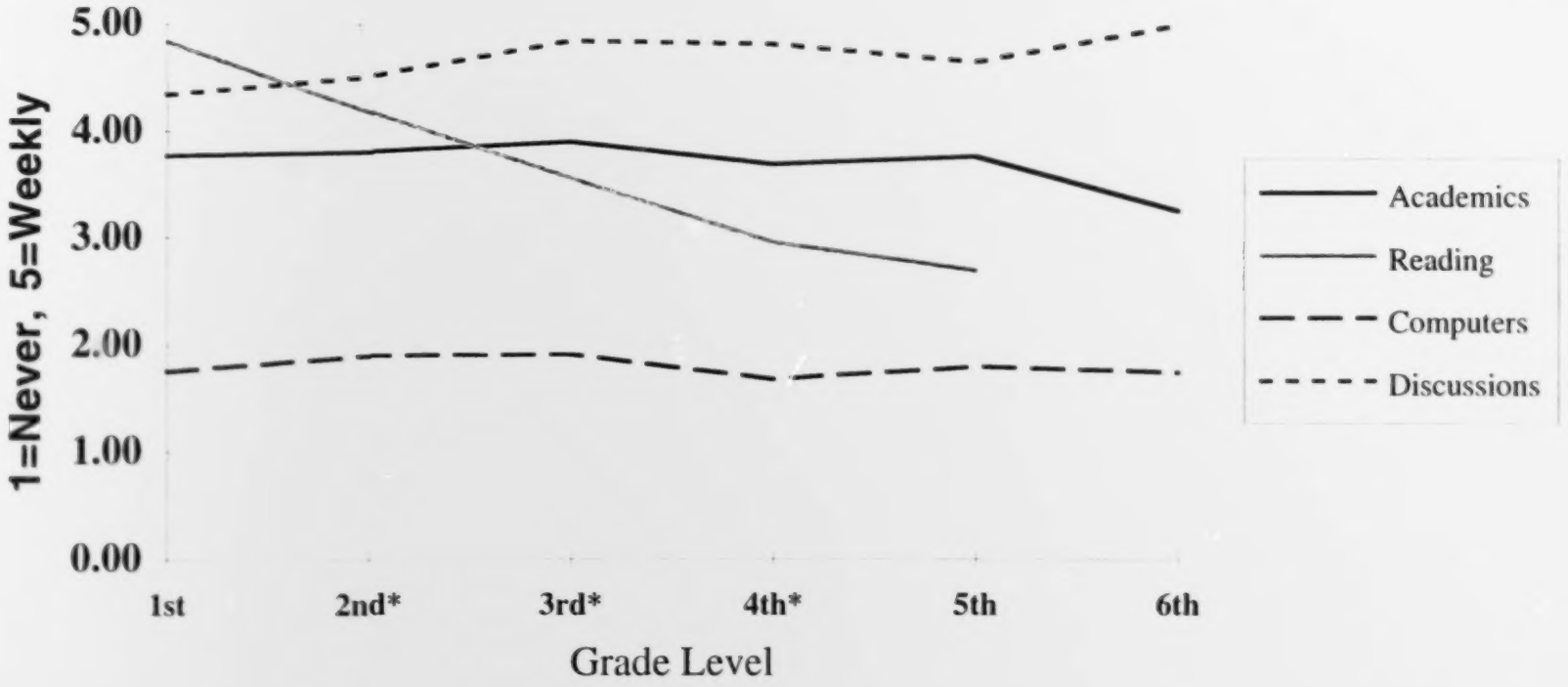

Table 1-a. Means and Standard Deviations: Teachers' Use of Communication Strategies

Variable	N	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Information on Classroom Goals/Procedures (%)							
Cohort 1	*131*	0.75 (0.26)	0.70 (0.20)	0.75 (0.21)			
Cohort 2	*121*		0.80 (0.23)	0.77 (0.22)	0.68 (0.28)		
Cohort 3	*115*				0.79 (0.21)	0.66 (0.29)	0.73 (0.21
2. Frequency of Information on Monitoring and Supporting Child's Schoolwork							
Cohort 1	*128*	2.29 (0.76)	1.99 (0.74)	1.94 (0.81)			
Cohort 2	*145*		2.05 (0.72)	1.88 (0.47)	2.06 (0.81)		
Cohort 3	*120*				2.02 (0.53)	2.06 (0.91)	1.99 (0.63)
3. Frequency of Positive Feedback to Parents							
Cohort 1	*133*	2.24 (0.50)	2.31 (0.83)	2.29 (0.71)			
Cohort 2	*110*		2.04 (0.59)	2.49 (0.93)	2.13 (0.74)		
Cohort 3	*113*				2.16 (0.89)	1.92 (0.86)	2.75 (0.83)
4. Frequency of Negative Feedback to Parents							
Cohort 1	*134*	2.47 (0.67)	3.05 (0.89)	3.38 (0.70)			
Cohort 2	*132*		2.13 (0.60)	3.42 (0.77)	3.21 (0.99)		
Cohort 3	*114*				3.22 (0.94)	2.92 (0.97)	3.49 (0.80)

Information on classroom goals was a percentage of seven types of information on goals/objectives teachers could have sent to parents from school. Feedback for positive and negative child outcomes were frequencies.

Table 1-b. MANOVA Results: Teachers' Use of Communication Strategies

Variable	Degrees of Freedom		F-Value
	Between	Within	
1. Information on Classroom Goals/Procedures (%)			
Cohort Effect	2	364	0.61
Time Effect	2	728	11.32**
Cohort by Time Effect	4	728	6.24**
2. Frequency of Information on Monitoring and Supporting Child's Schoolwork			
Cohort Effect	2	390	1.08
Time Effect	2	780	4.49**
Cohort by Time Effect	4	780	3.65**
3. Frequency of Positive Feedback to Parents			
Cohort Effect	2	353	0.72
Time Effect	2	706	9.04**
Cohort by Time Effect	4	706	18.48**
4. Frequency of Negative Feedback to Parents			
Cohort Effect	2	377	12.08**
Time Effect	2	754	86.13**
Cohort by Time Effect	4	754	30.44**

*p≤.05; **p≤.01
Manova statistics on within-subject effects (time and cohort by time) are based on average tests of significance.

Table 2-a. Means and Standard Deviations: Teacher Requests for At-Home and In-School Parent Involvement

Variable	N	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Requests: Academic Activities with Child	347						
Cohort 1	*124*	2.62 (0.80)	2.75 (1.05)	3.14 (0.71)			
Cohort 2	*117*		2.40 (0.75)	2.81 (0.90)	2.91 (0.76)		
Cohort 3	*106*				2.65 (0.82)	2.89 (0.94)	3.08 (0.90)
2. Requests: Other Educational Activities with Child	347						
Cohort 1	*128*	1.40 (0.40)	1.56 (0.83)	1.66 (0.73)			
Cohort 2	*113*		1.53 (0.61)	1.74 (0.82)	1.88 (0.93)		
Cohort 3	*106*				1.50 (0.64)	1.74 (0.98)	1.55 (0.67)
3. Count: Number of Academic Activities for which Parent Involvement is Requested	402						
Cohort 1	*140*	2.51 (1.37)	2.29 (1.09)	3.15 (0.62)			
Cohort 2	*139*		1.41 (1.36)	2.10 (1.05)	2.30 (1.04)		
Cohort 3	*123*				1.57 (1.26)	2.09 (1.03)	2.16 (1.10)
4. Count: Number of School Activities for which Parent Assistance is Requested	402						
Cohort 1	*134*	1.95 (1.32)	2.57 (1.11)	2.56 (0.99)			
Cohort 2	*132*		1.99 (1.57)	2.73 (0.96)	2.13 (1.08)		
Cohort 3	*114*				1.94 (1.46)	2.02 (0.97)	1.97 (0.94)

Academic activities and other educational activities were frequency scales, while the other two measures were simply counts of number of activities.

Table 2-b. MANOVA Results:
Teacher Requests for At-Home and In-School Parent Involvement

Variable	Degrees of Freedom		F-Value
	Between	Within	
1. Requests: Academic Activities with Child			
Cohort Effect	*2*	*344*	3.61*
Time Effect	*2*	*688*	29.12**
Cohort by Time Effect	*4*	*688*	1.30
2. Requests: Other Educational Activities with Child			
Cohort Effect	*2*	*344*	5.75
Time Effect	*2*	*688*	8.81**
Cohort by Time Effect	*4*	*688*	1.81
3. Count: Number of Academic Activities for which Parent Involvement is Requested			
Cohort Effect	*2*	*399*	42.66**
Time Effect	*2*	*798*	46.93**
Cohort by Time Effect	*4*	*798*	9.36**
4. Count: Number of School Activities for which Parent Assistance is Requested			
Cohort Effect	*2*	*399*	7.94**
Time Effect	*2*	*798*	21.66**
Cohort by Time Effect	*4*	*798*	6.52**

*p≤.05; **p≤.01
Manova statistics on within-subject effects (time and cohort by time) are based on average tests of significance.

Table 3-a. Means and Standard Deviations: Mothers' Reports of School-based Communication

Variable	N	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Information on Classroom Goals/Procedures (%)	147						
Cohort 1	*46*	0.34 (0.26)	0.29 (0.30)	0.34 (0.29)			
Cohort 2	*50*		0.27 (0.27)	0.24 (0.28)	0.33 (0.31)		
Cohort 3	*51*				0.38 (0.29)	0.32 (0.29)	0.38 (0.33)
2. Count-Feedback for Positive Outcomes	147						
Cohort 1	*46*	1.45 (0.98)	1.61 (1.04)	1.28 (1.19)			
Cohort 2	*50*		1.34 (1.04)	1.32 (1.20)	0.94 (1.06)		
Cohort 3	*51*				0.86 (1.04)	1.06 (1.07)	1.12 (1.13)
3. Count-Feedback for Negative Outcomes	147						
Cohort 1	*46*	0.78 (1.33)	0.67 (1.03)	0.61 (1.13)			
Cohort 2	*50*		0.60 (0.95)	0.62 (1.03)	0.86 (1.31)		
Cohort 3	*51*				0.78 (1.17)	0.90 (1.24)	0.92 (1.32)

Information on classroom goals was a percentage of six types of information on goals/objectives parents could have received from the school. Feedback for positive and negative child outcomes were counts of parent confirmations that they received phone calls, notes, or attended conferences concerning their child's conduct and performance.

Table 3-b. MANOVA Results:
Mothers' Reports of School-based Communication

Variable	Degrees of Freedom		F-Value
	Between	Within	
1. Information on Classroom Goals (%)			
Cohort Effect	2	144	1.61
Time Effect	2	288	2.95
Cohort by Time Effect	4	288	0.21
2. Count- Feedback for Positive Outcomes			
Cohort Effect	2	144	3.32*
Time Effect	2	288	2.36
Cohort by Time Effect	4	288	2.10
3. Count- Feedback for Negative Outcomes			
Cohort Effect	2	144	0.63
Time Effect	2	288	0.29
Cohort by Time Effect	4	288	0.86

*p≤.05; **p≤.01
Manova statistics on within-subject effects (time and cohort by time) are based on average tests of significance.

Table 4-a. Means and Standard Deviations:
Mothers' Perceptions of Teacher Requests for At-Home Involvement

Variable	N	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Requests: Academic Activities w/ Child	143						
Cohort 1	*43*	2.03 (0.85)	2.28 (0.87)	2.24 (0.96)			
Cohort 2	*50*		1.93 (0.88)	1.98 (1.02)	1.88 (0.81)		
Cohort 3	*50*				2.16 (0.95)	2.20 (0.95)	1.93 (0.81)
2. Requests: Other Educational Activities w/Child	142						
Cohort 1	*42*	1.31 (0.49)	1.41 (0.54)	1.30 (0.51)			
Cohort 2	*50*		1.35 (0.60)	1.40 (0.58)	1.28 (0.48)		
Cohort 3	*50*				1.39 (0.52)	1.57 (0.83)	1.33 (0.58)
Subscales of Academic Activities							
1a. Subscale: Projects w/ Child	142						
Cohort 1	*42*	1.20 (0.55)	1.48 (0.47)	1.58 (0.83)			
Cohort 2	*50*		1.40 (0.58)	1.51 (0.65)	1.57 (0.56)		
Cohort 3	*50*				1.74 (0.62)	1.63 (0.58)	1.50 (0.65)
1b. Subscale: Monitor Child's Homework	145						
Cohort 1	*44*	2.30 (1.59)	2.46 (1.43)	2.52 (1.50)			
Cohort 2	*50*		2.10 (1.53)	2.06 (1.28)	1.95 (1.39)		
Cohort 3	*51*				2.44 (1.78)	2.39 (1.39)	2.03 (1.16)

6-Point Scales (1=Never, 2=Infrequently, 3=Once a month, 4=2-3 Times a month, 5=Weekly, 6=More than once a week).
Scales assessing parent perceptions of teacher solicitations for them to do "Projects with Child" and "Monitor Child's Homework" also are included in the "Academic Activities with Child" scale.

Table 4-b. MANOVA Results:
Mothers' Perceptions of Teacher Requests for At-Home Involvement

Variable	Degrees of Freedom		F-Value
	Between	Within	
1. Requests: Academic Activities w/ Child			
Cohort Effect	*2*	*140*	1.60
Time Effect	*2*	*280*	1.75
Cohort by Time Effect	*4*	*280*	1.32
2. Requests: Other Educational Activities w/Child			
Cohort Effect	*2*	*139*	0.69
Time Effect	*2*	*278*	4.10*
Cohort by Time Effect	*4*	*278*	0.41
Subscales of Academic Activities			
1a. Subscale - Projects w/ Child			
Cohort Effect	*2*	*139*	1.89
Time Effect	*2*	*278*	0.57
Cohort by Time Effect	*4*	*278*	2.97*
1b. Subscale - Monitor Child's Homework			
Cohort Effect	*2*	*142*	1.50
Time Effect	*2*	*284*	0.55
Cohort by Time Effect	*4*	*284*	0.95

*p≤.05; **p≤.01
Manova statistics on within-subject effects (time and cohort by time) are based on average tests of significance.

Table 5-a. Means and Standard Deviations: Mothers' Volunteering and School Organization Involvement

Variable	N	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Volunteering at School (%)	171	0.42 (0.50)	0.56 (0.50)	0.64 (0.49)			
Cohort 1	*55*		0.38 (0.49)	0.57 (0.50)	0.45 (0.50)		
Cohort 2	*53*				0.22 (0.42)	0.43 (0.50)	0.51 (0.50)
Cohort 3	*63*						
2. Participation in School Organizations (%)	287	0.42 (0.50)	0.49 (0.50)	0.53 (0.50)			
Cohort 1	*92*		0.52 (0.50)	0.49 (0.50)	0.49 (0.50)		
Cohort 2	*97*				0.45 (0.50)	0.52 (0.50)	0.46 (0.50)
Cohort 3	*98*						

Scales are percentages of parents who reported participating in these types of involvement activities.

Table 5-b. MANOVA Results:
Mothers' Volunteering and School Organization Involvement

Variable	Degrees of Freedom		F-Value
	Between	Within	
1. Volunteering at School (%)			
Cohort Effect	*2*	*168*	2.25
Time Effect	*2*	*336*	15.51**
Cohort by Time Effect	*4*	*336*	1.78
2. Participation in School Organizations (%)			
Cohort Effect	*2*	*284*	0.05
Time Effect	*2*	*568*	0.76
Cohort by Time Effect	*4*	*568*	1.32

*p≤.05; **p≤.01
Manova statistics on within-subject effects (time and cohort by time) are based on average tests of significance.

Table 6-a. Means and Standard Deviations: Mothers' Home Involvement with Child

Variable	N	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Direct Involvement with Child							
1. Academic Activities with Child	288						
Cohort 1	*86*	3.77 (1.28)	3.88 (1.24)	3.76 (1.25)			
Cohort 2	*102*		3.71 (1.12)	4.01 (1.12)	3.66 (1.07)		
Cohort 3	*100*				3.70 (1.09)	3.75 (1.09)	3.24 (1.10)
2. Reading with Child	364						
Cohort 1	*116*	4.83 (0.90)	4.30 (1.14)				
Cohort 2	*132*		4.03 (1.26)	3.55 (1.27)			
Cohort 3	*116*				2.95 (1.10)	2.69 (1.08)	
3. Computers with Child	291						
Cohort 1	*90*	1.75 (0.99)	1.96 (1.13)	1.96 (1.05)			
Cohort 2	*101*		1.81 (0.94)	1.83 (0.93)	1.74 (0.87)		
Cohort 3	*100*				1.60 (0.72)	1.79 (0.93)	1.73 (0.98)
4. Discussions with Child	290						
Cohort 1	*90*	4.34 (1.14)	4.72 (1.20)	5.06 (1.09)			
Cohort 2	*100*		4.27 (1.18)	4.59 (1.24)	4.99 (1.18)		
Cohort 3	*100*				4.60 (1.11)	4.63 (1.16)	4.97 (1.14)

Involvement with child measures are 6-Point Scales (1=Never, 2=Infrequently, 3=Once a month, 4=2-3 Times a month, 5=Weekly, 6=More than once a week)
Measures of reading involvement were only asked Waves 2 and 3.

Table 6-b. MANOVA Results:
Mothers' Involvement with Child at Home

Variable	Degrees of Freedom		F-Value
	Between	Within	
Home Involvement with Child			
1. Academic Activities with Child			
Cohort Effect	*2*	*285*	1.96
Time Effect	*2*	*570*	13.13**
Cohort by Time Effect	*4*	*570*	3.21*
2. Reading with Child			
Cohort Effect	*2*	*361*	85.82**
Time Effect	*1*	*361*	62.64**
Cohort by Time Effect	*2*	*361*	2.19
3. Computers with Child			
Cohort Effect	*2*	*288*	1.28
Time Effect	*2*	*576*	3.48*
Cohort by Time Effect	*4*	*576*	1.34
4. Discussions with Child			
Cohort Effect	*2*	*287*	0.38
Time Effect	*2*	*574*	54.77**
Cohort by Time Effect	*4*	*574*	2.58*

*p≤.05; **p≤.01
Manova statistics on within-subject effects (time and cohort by time) are based on average tests of significance.

Table 7. Correlations Between Teacher and Parent Reports: School-based Communications

	Teacher Scales - Communications								
	Wave 2			Wave 3			Wave 4		
Parent Scales	% Goal Messages	Good Outcomes	Poor Outcomes	% Goal Messages	Good Outcomes	Poor Outcomes	% Goal Messages	Good Outcomes	Poor Outcomes
1. Information on Classroom Goals (%)	-.12	.03	.13	.00	-.06	-.03	-.01	.02	.03
2. Feedback for Positive Outcomes	-.12	.20*	-.05	.07	.04	.01	-.08	.03	.07
3. Feedback for Negative Outcomes	-.04	-.18	.28**	.07	-.04	-.04	-.07	.01	.03

Wave 2: N=104; Wave 3: N=281; Wave 4: N=218
Correlations on the diagonal represent the same construct asked of teachers and parents.

Table 8. Correlations Between Teacher and Parent Reports:
Teacher Requests and Parent Perceptions of Requests for In-Home Involvement

	Teacher Scales						
	Full Scales				Subscales		
Parent Perception Scales	Direct Requests for In-Home Involvement	Requests for Involvement in Other Activities	Count - Requests for Involvement in Subject Areas	Count - Requests for Involvement in Classroom	Requests for Monitoring Homework	Requests for Involvement in Projects	Requests for Involvement in Reading
Wave 2							
1. Perceived Requests - Academic Involvement	.17	-.07	.09	-.21*	.16	.07	-.04
Requests to Check Homework	.22*	-.02	.19**	-.06	.15	.10	-.05
Requests to Work on Projects	.38**	.19	.13	.10	.40**	.34**	-.17
2. Perceived Requests - Other Activities	.03	.02	-.03	.02	.05	.06	-.11
Wave 3							
1. Perceived Requests - Academic Involvement	.03	.02	.13*	-.08	.04	-.08	.02
Requests to Check Homework	.02	-.03	.09	-.07	.03	-.03	-.02
Requests to Work on Projects	.14*	.01	-.03	-.07	.07	.07	.04
2. Perceived Requests - Other Activities	-.01	.02	-.04	.01	.00	.04	-.02
Wave 4							
1. Perceived Requests - Academic Involvement	-.04	.03	.10	-.09	-.02	-.12	-.11
Requests to Check Homework	-.06	.05	.07	-.10	-.02	-.13*	-.10
Requests to Work on Projects	-.06	-.06	-.12	-.03	-.05	.02	-.01
2. Perceived Requests - Other Activities	.12*	.12	.00	-.06	.09	.04	.08

Wave 2: N=104 to 286 Due to pairwise deletion of cases.
Wave 3: N=271 to 323 Due to pairwise deletion of cases.
Wave 4: N=230 to 280 Due to pairwise deletion of cases.

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Table 9. Correlations Between Teacher and Parent Reports:
Teacher Requests and Parent's In-Home and at School Involvement Behaviors

	Teacher Scales						
	Full Scales				Subscales		
Parent Involvement Scales	Direct Requests for In-Home Involvement	Requests for Involvement in Other Activities	Count - Requests for Involvement in Subject Areas	Count - Requests for Involvement in Classroom	Requests for Monitoring Homework	Requests for Involvement in Projects	Requests for Involvement in Reading
Wave 2							
1. Academic Activities with Child	.09	.02	.14*	-.05	.14*	.09	-.06
2. Read with Child	-.14*	-.09	.14*	.05	-.14*	.00	.10
3. Computers with Child	.05	.06	.11	.07	.07	.08	.04
4. Discussions with Child	.02	.06	-.08	.05	-.02	-.06	.02
5. Volunteering in the Classroom	-.03	.01	-.02	.02	.01	-.06	.13
6. Participation in School Organizations	-.04	.05	-.06	.05	.01	-.05	.02
Wave 3							
1. Academic Activities with Child	.06	.02	.06	-.10	.05	.05	.05
2. Read with Child	-.11	.01	.01	.24**	-.10	-.11*	.03
3. Computers with Child	.00	-.02	.03	.09	-.03	.04	.01
4. Discussions with Child	-.07	.10	-.05	.06	-.15**	.01	-.01
5. Volunteering in the Classroom	.00	-.01	-.05	.03	.05	-.01	.06
6. Participation in School Organizations	.01	.01	-.09	.01	.00	.00	-.04
Wave 4							
1. Academic Activities with Child	.02	.02	.11	.08	.15*	-.10	-.13*
2. Read with Child	----	----	----	----	----	----	----
3. Computers with Child	.01	-.08	.01	-.03	.03	.08	-.03
4. Discussions with Child	.00	.06	.03	.06	.05	-.06	-.02
5. Volunteering in the Classroom	.06	.04	.13*	.03	.09	-.01	.02
6. Participation in School Organizations	.04	.02	.04	.05	.10	.06	-.04

Wave 2: N=104 to 286 Due to pairwise deletion of cases.
Wave 3: N=280 to 323 Due to pairwise deletion of cases.
Wave 4: N=230 to 284 Due to pairwise deletion of cases.
Parents' involvement in terms of reading with the child was not asked Wave 4.

Appendix - Teacher Scales

Teachers' Parent Involvement Techniques: Communications

Scale: *Information on Class Goals/Procedures(%) - (7 items)*

Variable Description	Wave 2 *alpha=.71*	Wave 3 *alpha=.96*	Wave 4 *alpha=.71*
Send home learning objectives	x	x	x
Send home information on assignments	x	x	x
Send home information on skills required to pass	x	x	x
Send home information on how report cards done	x	x	x
Send home information on interpreting std. test scores	x	x	x
Send home information on how ability groups are made	x	x	x
Send home information on how to teach skills/subjects	x	x	x

Percentage of 'yes' responses over total number of items (7)

Scale: *Information on Strategies to Support and Monitor Child's Schoolwork (4 items)*

Variable Description	Wave 2 *alpha=.61*	Wave 3 *alpha=.91*	Wave 4 *alpha=.72*
Send home ideas on talking to kid about work	x	x	x
Send home info on how to monitor homework	x	x	x
Send home guidelines for current events talk	x	x	x
Send home ways to practice spelling/skills before a test.	x	x	x

Unit weight mean scale from 5-point Likert items.
(1=Never, 2=Infrequently, as needed, 3=Biweekly or monthly, 4=Regular basis, 5=Weekly or Daily) for Wave 2
(1=Never, 2=Every 2 or 3 months, as needed, 3=Once a month, 4=A few times a month, 5=Weekly or Daily) for Waves 3 & 4

Scale: *Feedback to Parents for Positive Child Outcomes (6 items)*

Variable Description	Wave 2 *alpha=.82*	Wave 3 *alpha=.90*	Wave 4 *alpha=.83*
Notes to parents for good conduct	x	x	x
Phone calls to parents for good conduct	x	x	x
Notes to parents for work completion	x	x	x
Phone calls to parents for work completion	x	x	x
Notes to parents for good performance	x	x	x
Phone calls to parents for good performance	x	x	x

Unit weight mean scale.
(1=Never, 2=Infrequently, as needed, 3=Biweekly or monthly, 4=Regular basis, 5=Weekly or Daily) for Wave 2
(1=Never, 2=Every 2 or 3 months, as needed, 3=Once a month, 4=A few times a month, 5=Weekly or Daily) for Waves 3 & 4

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Appendix - Teacher Scales

Teachers' Parent Involvement Techniques: Communications

Scale: ***Feedback to Parents for Negative Child Outcomes (6 items)***

Variable Description	Wave 2 *alpha=.89*	Wave 3 *alpha=.89*	Wave 4 *alpha=.86*
Notes to parents for poor conduct	x	x	x
Phone calls to parents for poor conduct	x	x	x
Notes to parents for failure to complete work	x	x	x
Phone calls to parents for failure to complete work	x	x	x
Notes to parents for poor performance	x	x	x
Phone calls to parents for poor performance	x	x	x

Unit weight mean scale.
(1=Never, 2=Infrequently, as needed, 3=Biweekly or monthly, 4=Regular basis, 5=Weekly or Daily) for Wave 2
(1=Never, 2=Every 2 or 3 months, as needed, 3=Once a month, 4=A few times a month, 5=Weekly or Daily) for Waves 3 & 4

Teachers' Parent Involvement Techniques: Requests for at-home involvement

Scale: ***Requests for Parent to Work Directly with Child on Schoolwork (8 items)***

Variable Description	Wave 2 *alpha=.76*	Wave 3 *alpha=.91*	Wave 4 *alpha=.82*
Request parents listen to or discuss a report or story that child has written	------	x	x
Request parents discuss story child reads or writes		------	------
Request parents practice skills before tests	x	x	x
Request parents check to see homework is done	x	x	x
Request parents see homework is done right	x	x	x
Request parents to review material w/ child	------	x	x
Request parents help w/ other specific skills	x	x	x
Request parents to sign test results	x	x	x
Request parents work on projects w/ child	------	x	x
Request parents work on science projects w/ child	x	------	------
Request parents work on social studies projects w/ child	x	------	------

Unit weight mean scale from 5-point Likert items.
(1=Never, 2=Infrequently, as needed, 3=Biweekly or monthly, 4=Regular basis, 5=Weekly or Daily) for Wave 2
(1=Never, 2=Every 2 or 3 months, as needed, 3=Once a month, 4=A few times a month, 5=Weekly or Daily) for Waves 3 & 4

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Appendix - Teacher Scales

Teachers' Parent Involvement Techniques: Requests for at-home involvement

Scale: ***Requests for Parents to Engage Child in Other Educationally Relevant Activities (3 items)***

Variable Description	Wave 2 *alpha=.75*	Wave 3 *alpha=.93*	Wave 4 *alpha=.82*
Request parents help with computer skills	x	x	x
Request parents take child to special exhibits	x	x	x
Request parents watch educational tv w/child	x	x	x

Unit weight mean scale from 5-point Likert items.
(1=Never, 2=Infrequently, as needed, 3=Biweekly or monthly, 4=Regular basis, 5=Weekly or Daily) for Wave 2
(1=Never, 2=Every 2 or 3 months, as needed, 3=Once a month, 4=A few times a month, 5=Weekly or Daily) for Waves 3 & 4

Scale: ***Count of Activities - Academics (4 items)***

Variable Description	Wave 2 *alpha=.55*	Wave 3 *alpha=.68*	Wave 4 *alpha=.50*
Encourage parents to help w/math facts	x	x	x
Encourage parents to help w/reading	x	x	x
Encourage parents to help w/spelling	x	x	x
Encourage parents to help w/computers	x	x	x

Sum of 'yes' responses to these items in response to:
"What activities do you encourage parents to get involved in"

Teachers' Parent Involvement Techniques: Requests for in-school involvement

Scale: ***Count of Activities - Parents as Classroom Assistants (5 items)***

Variable Description	Wave 2 *alpha=.57*	Wave 3 *alpha=.78*	Wave 4 *alpha=.49*
Encourage parents to help w/field trips	x	x	x
Encourage parents to help w/clerical help	x	x	x
Encourage parents to help w/mentoring	-----	x	x
Encourage parents to help w/special projects	x	x	x
Encourage parents to help w/other	x	x	x
Encourage parents to help w/career awareness	x	-----	-----

Sum of 'yes' responses to these items in response to:
"What activities do you encourage parents to get involved in"

Appendix - Parent Scales

Mother's Perceptions of School: School communications

Scale: *Information on class goals/procedures (6 items)*

Variable Description	Wave 2 *alpha=.69*	Wave 3 *alpha=.74*	Wave 4 *alpha=.73*
Received feedback from interim performance reports (between report cards)	x	x	x
Received explanations about how report card grades are earned	x	x	x
Received explanations about how to interpret standardized test scores	x	x	x
Received explanations about how ability group placements in math or reading are made	x	x	x
Received information regarding your child's ability group placement	x	x	x
Received information about how to help your child with school work	x	x	x

Percentage of total number of these questions answered "yes"

Scale: *Feedback for positive child outcomes (3 items)*

Variable Description	Wave 2 *alpha=.61*	Wave 3 *alpha=.69*	Wave 4 *alpha=.68*
Received feedback from notes or phone calls praising how good child's work has been	x	x	x
Received feedback from notes or phones calls praising how good child's conduct has been	x	x	x
Received feedback from special parent conferences to discuss how good child's work has been	x	x	x

Count of these questions answered "yes."

Scale: *Feedback for negative child outcomes (3 items)*

Variable Description	Wave 2 *alpha=.76*	Wave 3 *alpha=.74*	Wave 4 *alpha=.76*
Received feedback from notes or phone calls regarding poor work	x	x	x
Received feedback from notes or phones calls regarding poor conduct	x	x	x
Received feedback from special parent conferences to discuss poor work	x	x	x
Received feedback from special parent conferences to discuss poor conduct	x	x	x

Count of these questions answered "yes"

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Appendix - Parent Scales

Mother's Perceptions of School: Requests for at-home involvement

Scale: ***Perceptions of teacher requests for direct academic involvement (5 items)***

Variable Description	Wave 2 *alpha=.85*	Wave 3 *alpha=.85*	Wave 4 *alpha=.89*
Listen to child read	x	x	x
Listen to or discuss a story that child writes	x	x	x
Practice spelling or other skills before a test	x	x	x
Check to see that homework is complete	x	x	x
Check to see that homework in done correctly	x	x	x
Sign that you have seen test results	x	x	x
Work on science projects with child	x	x	x
Work on social studies projects with child	x	x	x
Help child with other specific skills	x	x	x

Unit weight mean scale. "How frequently has you child's teacher asked to to do each of these this school year?" (1=Never, 2=Infrequently, 3=About once a month, 4=2-3 times a month, 5=Weekly, 6=More than once a week)

Scale: ***Perceptions of teacher requests for involvement in other educationally relevant activities (3 items)***

Variable Description	Wave 2 *alpha=.73*	Wave 3 *alpha=.77*	Wave 4 *alpha=.75*
Take child to special exhibits	x	x	x
Watch specific educational TV shows with child	x	x	x
Help child with computer skills	x	x	x

Unit weight mean scale. "How frequently has you child's teacher asked to to do each of these this school year?" (1=Never, 2=Infrequently, 3=About once a month, 4=2-3 times a month, 5=Weekly, 6=More than once a week)

Scale: ***Perceptions of teacher requests to do projects with child (2 items) SUBSCALE***

Variable Description	Wave 2 *alpha=.86*	Wave 3 *alpha=.82*	Wave 4 *alpha=.82*
Work on science projects with child	x	x	x
Work on social studies projects with child	x	x	x

Unit weight mean scale. "How frequently has you child's teacher asked to to do each of these this school year?" (1=Never, 2=Infrequently, 3=About once a month, 4=2-3 times a month, 5=Weekly, 6=More than once a week)

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Appendix - Parent Scales

Mother's Perceptions of School:
Requests for at-home involvement

Scale: ***Perceptions of teacher requests to do check child's homework (2 items) -SUBSCALE***

Variable Description	Wave 2 *alpha=.91*	Wave 3 *alpha=.91*	Wave 4 *alpha=.93*
Check to see that homework is complete	x	x	x
Check to see that homework is done correctly	x	x	x

Unit weight mean scale. "How frequently has you child's teacher asked to to do each of these this school year?" (1=Never, 2=Infrequently, 3=About once a month, 4=2-3 times a month, 5=Weekly, 6=More than once a week)

Appendix - Parent Scales

Mother's Actual Involvement:
At-home involvement

Scale: *Academic Activities with Child (5 items)*

Variable Description	Wave 2 *alpha=.74*	Wave 3 *alpha=.76*	Wave 4 *alpha=.82*
Do math or science activities with child	x	x	x
Help this child with homework	x	x	x
Check this child's homework after its completed	x	x	x
Help child prepare for tests	x	x	-----
Help with math/science homework	-----	-----	x

Unit weight mean scale. "How much are you involved with this child's daily actitivities?"
(1=Never, 2=Occassionally, 3=2-3 times a month, 4=Weekly, 5=2-4 times a week, 6=Almost every day for a while)

Scale: *Reading Activities with Child (2 items)*

Variable Description	Wave 2 *alpha=.79*	Wave 3 *alpha=.76*	Wave 4 *Not asked*
Read to this child	x	x	-----
Have this child read to you	x	x	-----

Unit weight mean scale. "How much are you involved with this child's daily actitivities?"
(1=Never, 2=Occassionally, 3=2-3 times a month, 4=Weekly, 5=2-4 times a week, 6=Almost every day for a while)

Scale: *Computer Activities with Child (2 items)*

Variable Description	Wave 2 *alpha=.88*	Wave 3 *alpha=.85*	Wave 4 *alpha=.85*
Work with child on computers	x	x	x
Play computer games with child on computer	x	x	x

Unit weight mean scale. "How much are you involved with this child's daily actitivities?"
(1=Never, 2=Occassionally, 3=2-3 times a month, 4=Weekly, 5=2-4 times a week, 6=Almost every day for a while)

Scale: *Discussion with Child (3 items)*

Variable Description	Wave 2 *alpha=.69*	Wave 3 *alpha=.76*	Wave 4 *alpha=.79*
Discuss child's experiences at school	x	x	x
Discuss current events with child	x	x	x
Teach child general knowledge, information and concepts	x	x	x

Unit weight mean scale.
(1=Never, 2=Infrequently, 3=Once a month, 4=2-3 Times a month, 5=Weekly, 6=More than once a week)

Appendix - Parent Scales

Mother's Actual Involvement:
In-school involvement

Scale: ***Involvement with parent-school organizations (2 items)***

Variable Description	Wave 2 *alpha=.56*	Wave 3 *alpha=.51*	Wave 4 *alpha=.54*
Participate in PTO/PTA or other school organizations	x	x	x
Organizational leader in PTO/PTA or other	x	x	x

Percentage of "yes" responses to items in combination.

Scale: ***Volunteering at child's school (4 items)***

Variable Description	Wave 2 *alpha=.50*	Wave 3 *alpha=.41*	Wave 4 *alpha=.41*
General voluteer work at school	x	x	x
Volunteering for specific skills at school	x	x	x

Percentage of "yes" responses to items in combination.